

**REMARKS**

The Office Action dated September 28, 2004 has been received and carefully reviewed. The specification has been amended to correct a typographical error on page 6, and claims 1 and 14 have been amended without adding new matter, whereby claims 1-16 are currently pending in the application. Applicants note the indication in the Office Action that the drawings have been accepted and also note the prior art made of record but not relied upon in the Office Action.

The invention relates to wire feeders in which power is selectively supplied from a power supply to the wire feeder according to the position of a trigger adjacent a welding torch, where high power current switching can be advantageously removed from the wire feeder and accomplished at the power source. Applicants submit that pending claims 1-16 are currently patentable over the cited references, and respectfully request reconsideration thereof in view of the above amendment and the following remarks.

**I. REJECTION OF CLAIMS 1, 8-10, 13, AND 14 UNDER 35 U.S.C. § 103**

Claims 1, 8-10, 13, and 14 were rejected under 35 U.S.C. § 103 as being unpatentable over Nishida Japanese document no. JP58-107272A (hereinafter "Nishida JP58-107272A") in view of Tunnell U.S. Patent No. 4,641,292 (hereinafter "Tunnell 4,641,292"). Applicants submit that the proposed combination of Nishida JP58-107272A with Tunnell 4,641,292 fails to teach or suggest each and every element of claims 1, 8-10, 13, and 14, and further that there is no motivation or suggestion for the proposed combination. Reconsideration and withdrawal of these claim rejections is therefore respectfully requested for at least the following reasons.

The proposed combination of Nishida JP58-107272A with Tunnell 4,641,292 fails to teach or suggest all the features of claims 1, 8-10, 13, and 14. Independent claim 1 provides a wire feeder with a weld starting trigger to close a switch when the trigger is shifted to a weld start position, a circuit coupled to the switch to sense when the switch is closed, and a transmitter on the wire feeder to transmit a starting signal to the power source when the switch is closed. The English language abstract and Fig. 2 of Nishida JP58-107272A do not appear to specify a trigger to close a switch or a circuit to sense when the switch is closed. In this regard, the translated abstract indicates that the repeater 18 receives light signals such as near infrared rays sent from the transmitter 17, but does not discuss any trigger, switch, or a circuit to sense when the switch is closed at the wire feeding device 11.

To the extent that the transmitter 17 may be inferred to include a trigger, a switch, and a circuit to sense when the switch is closed, and it is inferred that the repeater 18 is a transmitter on the wire feeder, the repeater 18 is clearly not coupled to the transmitter 17, and hence is not coupled to the circuit as set forth in amended claim 1. In this regard, the repeater 18 and transmitter 17 of Nishida JP58-107272A are not physically coupled to one another, wherein the repeater 18 merely receives light signals from the transmitter 17 (Nishida JP58-107272A English language abstract and Fig. 2). Furthermore, to the extent that the transmitter 17 may be inferred to include a trigger and a switch (which it does not), and it is inferred that the repeater 18 is or includes a circuit to sense when the switch is closed, such a circuit in the repeater 18 would clearly not be coupled to any switch in the transmitter 17, as is set forth in claim 1. Thus, the English translation of the abstract and drawings of Nishida JP58-107272A fail to teach the trigger, switch, and circuit elements of claim 1 and claims 8-10, and 13 depending therefrom.

Tunnell 4,641,292 likewise fails to teach or suggest these features, being instead directed to voice controlled weld systems designed to permit a remotely located welder to adjust a welding power supply without use of such triggers, switches, or circuitry for sensing switch closure. Thus, the proposed combination of Nishida JP58-107272A with Tunnell 4,641,292 fails to teach or suggest each and every element of independent claim 1 and the corresponding dependent claims 8-10, and 13.

In addition, dependent claims 8-10 provide that the wire feeder has a voltage select device for manual adjustment to a condition corresponding to a desired arc voltage, and claim 13 recites a speed control device for controlling arc current. The English language abstract and figures of Nishida JP58-107272A do not indicate a wire feeder having voltage select device for manual adjustment as in claims 8-10, and also do not appear to teach or suggest a speed control device for controlling arc current as in claim 13. Also, Tunnell 4,641,292 fails to teach or suggest such manual adjustment features, and instead provides only voice controlled weld systems. Thus, for these additional reasons, dependent claims 8-10 and 13 are believed to be patentably distinct from the proposed combination of Nishida JP58-107272A with Tunnell 4,641,292.

Moreover, there appears to be no motivation, suggestion, nor reasonable expectation of success in attempting the proposed combination of Nishida JP58-107272A with Tunnell 4,641,292 or otherwise applying the teachings of Tunnell 4,641,292 with a wire feeder having a trigger, a switch, and a circuit to sense when the switch is closed. In this regard, a prima facie case of

obviousness requires clear and particular suggestion or motivation in the references themselves, in the nature of the problem to be solved, or in the knowledge generally available to one skilled in the art to modify the reference or to combine references, as well as a reasonable expectation of success in making the proposed modification or combination. In this case, Tunnell 4,641,292 appear to teach away from the provision of a trigger to close a switch when the trigger is shifted to a weld start position and a circuit to sense when the switch is closed, since the proposed combination of Nishida JP58-107272A with Tunnell 4,641,292 would defeat the purpose of Tunnell 4,641,292, which specifically discusses the undesirability of an operator having to manually adjust a welder using his hands (col. 3, lines 29-34). Furthermore, one of the stated objectives of Tunnell 4,641,292 is to provide methods and apparatus for a remote operator to give *verbal* commands for adjusting a welder supply, wire feeder, or internal combustion engine (col. 3, lines 48-61; col. 5, lines 40-59; col. 6, lines 52-55; col. 13, lines 1-8). Because the addition of a trigger, switch, and a circuit to sense when the switch is closed would render Tunnell 4,641,292 unsatisfactory for its intended purpose, either alone or in combination with Nishida JP58-107272A, there is no suggestion or motivation to make the proposed combination/modification.

Thus, the proposed combination of Nishida JP58-107272A with Tunnell 4,641,292 fails to teach each and every element of claims 1, 8-10, and 13, and there is no motivation or suggestion for combining/modifying Tunnell 4,641,292 to create a wire feeder with a starting trigger to close a switch when the trigger is shifted to a weld start position and a circuit to sense when the switch is closed. Applicants accordingly request reconsideration and withdrawal of the rejection of claims 1, 8-10, and 13 under U.S.C. § 103.

Independent claim 14 is directed to a method for turning on a power source of an electric arc welder. This method comprises starting a welding cycle of a welding process, sensing the starting, transmitting a signal from a wire feeder to the power source when the starting is sensed, and starting the power source upon receipt of the signal to direct power to the wire feeder by a cable. By the above amendment to claim 14, the welding cycle is started by shifting a weld starting trigger of the wire feeder to a weld start position to close a switch, and the starting is sensed by sensing when the switch is closed using a sensor circuit in the wire feeder. Neither Nishida JP58-107272A nor Tunnell 4,641,292 appear to teach or suggest shifting a weld starting trigger of the wire feeder to a weld start position to close a switch and sensing the starting by sensing when the switch is closed using a sensor circuit in the wire feeder. Moreover, as discussed above, there is no motivation,

suggestion, or reasonable expectation of success in employing the teachings of Tunnell 4,641,292 in a method involving shifting a weld starting trigger of the wire feeder to a weld position to close a switch and sensing when the switch is closed using a sensor circuit. Claim 14 is therefore patentably distinct from Nishida JP58-107272A and Tunnell 4,641,292, whereby reconsideration and withdrawal of the rejection thereof is requested under U.S.C. § 103.

## **II. REJECTION OF CLAIMS 2-7, 11, 12, 15, AND 16 UNDER 35 U.S.C. § 103**

Claims 2-7, 11, 12, 15, and 16 were rejected under 35 U.S.C. § 103 as being unpatentable over Nishida JP58-107272A taken with Tunnell 4,641,292 as applied to claims 1, 8-10, 13, and 14, and further in view of Makimaa EPO document no. EP0575082A2 (hereinafter "Makimaa EP0575082A2"). Applicants submit that the proposed combination of Nishida JP58-107272A with Tunnell 4,641,292 and Makimaa EP0575082A2 fails to teach or suggest each and every element of claims 2-7, 11, 12, 15, and 16, and further that there is no motivation or suggestion for the proposed combination, whereby reconsideration and withdrawal of these claim rejections is respectfully requested for at least the following reasons.

Claims 2-7, 11, and 12 depend from independent claim 1. As discussed above, claim 1 is patentably distinct from the combination of Nishida JP58-107272A with Tunnell 4,641,292, wherein this proposed combination fails to teach all the elements of claim 1 and no motivation or suggestion exists for this combination. Makimaa EP0575082A2 fails to remedy the deficiencies of the proposed combination of Nishida JP58-107272A with Tunnell 4,641,292. In particular, Makimaa EP0575082A2 does not appear to teach or suggest a trigger, a switch, or a circuit to sense when the switch is closed, as set forth in amended claim 1. Furthermore, as discussed above, there is no suggestion, motivation, or reasonable expectation of success in combining the teachings of Tunnell 4,641,292 with a wire feeder having a trigger, a switch, and a circuit to sense switch closure.

Claims 15 and 16 depend from independent method claim 14. As discussed above, the method of claim 14 comprises starting the welding cycle of a welding process for the welder by shifting a weld starting trigger of the wire feeder to a weld start position to close a switch, sensing the starting by sensing when the switch is closed using a sensor circuit in the wire feeder, transmitting a signal from the wire feeder to the power source when the starting is sensed, and starting the power source upon receipt of the signal to direct power to the wire feeder by the cable. The combination of Nishida JP58-107272A with Tunnell 4,641,292 fails to teach or suggest shifting

a weld starting trigger of the wire feeder to a weld start position to close a switch and sensing said starting by sensing when the switch is closed using a sensor circuit in the wire feeder, and Makimaa EP0575082A2 fails to teach these missing acts. Also, no suggestion or motivation exists for employing the teachings of Tunnell 4,641,292 in starting a welding cycle by shifting a weld starting trigger to a weld position to close a switch, or in sensing the starting by sensing when the switch is closed using a sensor circuit.

Consequently, dependent claims 2-7, 11, 12, 15, and 16 are believed to be non-obvious in view of Nishida JP58-107272A, Tunnell 4,641,292, and Makimaa EP0575082A2, and reconsideration thereof is requested under 35 U.S.C. § 103.

**III. CONCLUSION**

The specification has been amended to correct a typographical error and claims 1 and 14 have been amended without addition of new matter. For at least the above reasons, the currently pending claims are believed to be in condition for allowance and notice thereof is requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 06-0308, LEEE200330.

Respectfully submitted,

By:



Robert V. Vickers

Reg. No. 19,504

Fay, Sharpe, Fagan, Minnich & McKee, LLP  
1100 Superior Avenue, Seventh Floor  
Cleveland, OH 44114-2518  
Telephone: 216/861-5582  
Facsimile: 216/241-1666

**CERTIFICATE OF MAILING (37 CFR 1.8a)**

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

By: \_\_\_\_\_

Date: \_\_\_\_\_